

FCC Draft Rule Seeks to Limit Space Debris

April 17, 2020

On April 2, the Federal Communications Commission (FCC) published notice of a proposed [rule](#) intended to reduce the risk that active satellites will be damaged by space debris. The proposed rule, which is scheduled for an FCC vote on April 23, has been [sharply criticized](#) by some aerospace and telecommunications groups, and leaders of a House committee have asked that it be delayed.

The FCC licenses U.S. commercial communications satellites and the radio frequencies needed to control them. In 2004, it issued an order directing satellite operators applying for FCC licenses to submit plans showing spacecraft design features and operation specifications intended to reduce the probability of accidental collisions in orbit. A single such collision could produce thousands of pieces of debris. While most of these pieces would be small, they would continue to orbit the Earth and could have catastrophic effects if they collide with active spacecraft.

Since 2004, low Earth orbit—comprising orbits at altitudes below 1,200 miles above Earth—has become more congested due to the launch of thousands of very small satellites. Planned constellations of tens of thousands of small communications satellites are expected to further increase the risk of collisions.

The draft rule would

- require any commercial satellite operator applying for an FCC license to provide a detailed probability assessment of collisions that could damage a satellite and to assess the probability of successfully disposing of the spacecraft after its mission is complete by guiding it to a trajectory that would cause it to burn up as it reenters the atmosphere;
- require all satellites orbiting higher than the International Space Station, at about 250 miles above the Earth in low Earth orbit, to be equipped with maneuverability systems to avoid collisions with one another or with the space station as they deorbit and fall back to Earth;
- require satellite operators to disclose more detailed information about planned maneuvers, release of liquids, operations in close proximity to other spacecraft, and position to make it easier for the U.S. Space Force's 18th Space Control Squadron, which operates the Space Surveillance Network on behalf of the U.S. military, to track objects and warn satellite operators of potential collisions;

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IN11342

- adopt a requirement for licensees to indemnify the U.S. government for costs associated with any liability claims brought against the United States under international outer space treaties; and
- require satellite operators to post bonds to create an economic incentive to maneuver unneeded satellites out of orbit so they will burn up in the atmosphere rather than leave them as debris in orbit.

The FCC first announced plans for new rules in November 2018 and published a [Notice of Proposed Rulemaking](#) after the White House published [Space Policy Directive 3 \(SPD-3\): National Space Traffic Management Policy](#). SPD-3 directed a U.S. interagency working group to update U.S. orbital debris standards and practices originally established in 2001 and to write new guidelines for satellite operation and design. The interagency working group directed the FCC to delay any proposed changes to its own debris mitigation requirements for licensing until government-wide standards were established.

These final [Orbital Debris Mitigation Standard Practices](#), approved by the National Space Council, were published in December 2019. They retain many best practices from the 2001 version, but new language instructs government and commercial satellite operators to ensure that their spacecraft present less than a 1-in-1,000 probability of a collision. Other recommended practices seek to mitigate collision risks from newer space activities involving satellites operating in close proximity to one another or to other objects in space. Some of these activities that could inadvertently contribute to collisions include satellite refueling, maintenance, and inspection and experimental debris removal operations.

The FCC's draft rule proposes stricter or novel requirements for commercial satellite licensees. Industry groups such as the [Satellite Industry Association](#) contend that the rules could inhibit the growth of the U.S. satellite industry, especially if other countries do not impose similar requirements. [Major telecommunications companies](#) have been particularly concerned that the proposed indemnification requirement could expose satellite operators to unlimited liability for claims that their spacecraft damaged other spacecraft without proof of fault or negligence. The Aerospace Industries Association submitted a [letter](#) to the FCC requesting postponement of its vote to adopt the draft rule, currently planned for April 23, 2020, to allow additional time for consideration of industry comments.

On April 15, the chair and ranking member of the House Science, Space, and Technology Committee sent a [letter](#) asking the chairman of the FCC to postpone its planned vote on the final rule. The letter, also signed by the chair and ranking member of the Space and Aeronautics Subcommittee, asserted that the proposed rule is inconsistent and that it overlaps both with proposed legislation and with the practices already recommended by the National Space Council.

Author Information

Alyssa K. King
Analyst in Transportation Policy

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